

What are **two** benefits of storing this data in MongoDB with JSON over a relational database management system such as Postgres? Please reference specific examples from the **business** collection to back up your claims. - Format your answer as follows: 1. Benefit #1, Example #1. 2. Benefit #2, Example #2.

Limit each benefit to 1 sentence and each example to 1 sentence for a total of at most four sentences.

1. Benefit #1: MongoDB with JSON allows flexible sets of attributes. For example, “attributes” field of the first restaurant has slightly different items compared to the second one, so MongoDB can allow this flexibility compared to fixed structure of relational database
2. Benefit #2: MongoDB with JSON is more human-readable thanks to the key-value format. For example, in the “hours” field, we can understand each number string represent opening hours for each specific day.

0.0.1 Question 2d

In the last question, you performed equivalent left joins in both Postgres and Mongo. Now, examine their query plans, paying special attention to `executionTimeMillis`. Which join was faster? What gives that database system you chose an advantage over the other? Keep your response to at most three sentences.

Postgres performs join faster than Mongo. Postgres has more optimization strategies, including hash join, merge join, and nested join while Mongo does not have many options.

What do you notice about how the columns of `business_df` are constructed? How are values that are not found in every document handled in the pandas dataframe? Compare and contrast this dataframe representation with the document representation we saw with Mongo. Keep your response to at most two sentences.

The columns are all available attributes of all businesses in our database, which gives in total of 58 columns. This table is less readable because of unnecessary columns marked as “NA” when we look at a specific row, compared to Mongo that has nested attributes so we can immediately read attributes of a specific business.

